

Patent Claims

1. Process for preparing a said winding roll (8) for a flying roll change by arranging a said adhesive tape (44) between the said beginning (30.1) of the web and a said web layer (66) of the said winding roll (8), which said web layer lies under it, in which

- a) the beginning of the web is lifted off from the said winding roll (8),
- b) the said adhesive tape (44) is placed with a said first bonding surface (62) on the area of the said web that has remained wound up,
- c) the said beginning (30.1) of the web is cut to size, and
- d) the said beginning (30.1) of the web, which has been lifted off and cut to size, is returned onto the said winding roll (8), so that a said second bonding surface (63) of the said adhesive tape (44) comes into contact with the said beginning (30.1) of the web.

2. Process for preparing a said winding roll (8) for a flying roll change by arranging a said adhesive tape (44) between the said beginning (30.1) of a web and a said layer (66) of the said winding roll (8) lying under it, in which:

- a) the said beginning of the web is lifted off from the said winding roll (8);
 - b) the said adhesive tape (44) is placed on the web;
 - c) the said beginning (30.1) of the web is cut to size;
- wherein
- d) the said beginning of the web is led over a said roller (10) for cutting the said

beginning (30.1) of the web to size;

- e) a said cutting knife (51) is pressed against the said roller (10), so that a cutting blade of the said cutting knife (51) is pressed against the circumferential surface of the said roller (10) and the web is severed.

3. Process in accordance with claim 1 or 2, characterized in that the said beginning of the web is led over a said roller (10) that is in contact with the said winding roll (8).

4. Process in accordance with one of the above claims, characterized in that the shape of the edge of the said beginning (30.1) of the web is variable by using said cutting knives (51) of different designs to cut the web to size.

5. Process in accordance with one of the above claims, characterized in that the said lifted-off beginning of the web is cut to size over such a length, measured from the point of lift-off to the edge of the web, that the said beginning (30.1) of the web covers only a said predetermined part (63.1) of the said second bonding surface after returning to the said winding roll (8).

6. Process in accordance with one of the above claims, characterized in that the said beginning (30.1) of the web is wound off by rotating the said roller (10) and/or the said winding roll (8) onto the said second bonding surface (63) without the said roller (10) touching the said bonding surface (63).

7. Process in accordance with one of the above claims, characterized in that it is carried out fully automatically.

8. Device for carrying out the process in accordance with one of the claims 1 through 7, which has

a) a said gripping device (25) for lifting off the said beginning of a web of the said winding roll (8);

b) a said adhesive tape applicator (45) for placing a said adhesive tape (44) on the web of the said winding roll (8);

wherein

c) the said adhesive tape applicator (45) is arranged such that the said adhesive tape (44) can be placed on an area of the web on the jacket surface of the said winding roll (8), which said web area has remained wound up, and from which the beginning of the web was lifted off.

5 9. Device in accordance with claim 8 with a said cutting device for cutting the said beginning of the web to size, wherein the said cutting device preferably has a said cutting knife (51) and a said drive means (52) and is arranged in relation to a said roller (10), which adjoins the said winding roll (8) and via which the lifted-off web of the said winding roll (8) can be deposited, such that the said cutting knife (51) can be driven in the direction of the said roller
10 (10).

10. Device in accordance with claim 8 or 9, characterized in that the arrangements of the said adhesive tape applicator (45), the said cutting device and the said roller (10) in relation to the said winding roll (8) are coordinated with one another such that the cutting site of the said beginning (30.1) of the web and the web area with the said adhesive tape (44) on the said
15 winding roll (8) are in a predetermined relationship to each other.

11. Device in accordance with one of the claims 8, 9 and 10, characterized in that the said adhesive tape applicator (45), the said roller (10) and/or the said cutting knife (51) are pivotable.

12. Device in accordance with one of the claims 8 through 11, characterized in that the said cutting knife (51) of the said cutting device is replaceable.

20 13. Device in accordance with one of the above claims 8 through 11, characterized in that a plurality of said cutting knives (51) with different blades shapes are provided in the said cutting

device.

14. Device in accordance with one of the above claims, characterized in that it operates fully automatically.

15. Device for gripping a said part (65) of a material web with a said first element (26) and a
5 said second element (28), which can be moved in relation to one another, wherein a part of the said first element (26) can be placed on the said material web (65) and the said second element (28) can mesh with the said material web (65), so that the said material web (65) can be gripped between the said first element (26) and the said second element (28) by a relative movement between the said first element (26) and the said second element (28).

10 16. Device in accordance with claim 15, wherein the said material web (65) is wound up on a said winding roll (8).

17. Device in accordance with claim 15 or 16, wherein the said first element (26) is a rotatable element, especially a roller.

18. Device in accordance with claim 15 or 16, wherein the said first element is a gripping
15 element, which can be placed on the said material web (65).

19. Device in accordance with one of the above four claims, wherein the said first element (26) and/or the said second element (28) have at least one opening to mesh with each other.

20. Device in accordance with one of the above five claims, wherein the said first element (26) and/or the said second element (28) can be driven, so that a relative movement can be

generated between the said first and second elements and/or a relative movement can be generated between the said first element (26) and the said material web (65) or between the said second element (28) and the said material web (65).

21. Device in accordance with one of the above six claims, wherein the said first element and/or the said second element have a said elastic element (110) to meter the contact or pressing pressure on the said material web (65).

22. Device in accordance with one of the above seven claims, wherein the said second element (28) has a said edge (28a), which can mesh with the said material web (65).

23. Device in accordance with one of the above eight claims, wherein a said sensor (31) is provided for detecting a feature of the said material web (65).

24. Device in accordance with one of the above claims, wherein a control is provided, which controls the relative movement between the said first element (26) and/or the said second element (28) and/or the said material web (65), preferably with the use of the signal detected by the said sensor (31).

25. System for gripping a part of a said material web (65) with a said material web holding device (8), a device for gripping the said material web in accordance with one of the above 10 claims, and with a said moving element (27, 103) to move the device for gripping the said material web in relation to the said material web holding device (8).

26. System in accordance with claim 25, wherein the said material holding device (8) is moved in relation to the said device for gripping the said material web.

27. System in accordance with claim 25 or 26, wherein the said device for gripping the said material web is moved in relation to the said material web holding device (8).

28. Process for gripping a said material web (65), wherein a said first element (26) is placed on the said material web (65), a said second element (28) is brought into meshing with the said material web (65), and the said material web (65) is held between the said first element (26) and the said second element (28) by a relative movement between the said first element (26) and the said second element (28).

29. Process in accordance with claim 28, wherein the said gripped material web is picked up by a movement of the said first and second elements (26, 28) holding the said material web (65).

30. Device for placing a said double-sided adhesive tape (44) on a said surface (66) with a said adhesive tape feeding device (205) for feeding the said double-sided adhesive tape (44) masked with at least one said masking tape (64), with a said separating device (212) for separating the said double-sided adhesive tape (44) from the at least one said masking tape (64), with a said cutting device (220, 221) for cutting the said double-sided adhesive tape (44), and with a said adhesive tape pressing device (219) for bringing together and/or pressing on the said double-sided adhesive tape (44), wherein the said at least one masking tape (64) is led between the said adhesive tape pressing device (219) and the said double-sided adhesive tape (44) which is to be pressed on.

31. Device in accordance with claim 30, wherein the said adhesive tape feeding device (105) is a roller.

32. Device in accordance with claim 30 or 31, wherein the said separating device (212) for

separating the said double-sided adhesive tape (44) from the said at least one masking tape (64) is a roller or a stationary element.

33. Device in accordance with one of the above three claims, wherein the said adhesive tape pressing device (219) is a roller or a stationary element.

5 34. Device in accordance with one of the above four claims, wherein a said movable or pivotable element (216) is provided to pick up a variable length of the said masking tape (64).

35. Device in accordance with one of the above five claims, wherein the said cutting device (220, 221) is arranged between the said separating device (212) and the said adhesive tape pressing device (219).

10 36. Device in accordance with one of the above six claims, wherein a said masking tape pick-up device (224) is provided for taking up the said masking tape (64).

37. System with a device in accordance with one of the above seven claims and with a said moving unit (43) for generating a relative movement between the device for applying the said double-sided adhesive tape (44) and the said surface (66).

15 38. Process for placing a said double-sided adhesive tape (44) on a said surface (66), wherein a said masking tape (64) covering the said double-sided adhesive tape (44) is pulled off from the said double-sided adhesive tape (44), the said adhesive tape (44) is severed after a predetermined length, and the said double-sided adhesive tape (44) is pressed onto the surface by a pressure applied on the said masking tape (64) which has been returned.

20 39. Process in accordance with claim 38, wherein the said double-sided adhesive tape (44) is applied to the said surface (66) piece by piece.